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EXAMINER
AVERY, JEREMIAH L

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/580,503	VAN LEEST ET AL.
	Examiner	**Art Unit**	
	Jeremiah Avery	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>23 May 2006</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-35* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-35* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>23 May 2006</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-35 have been examined.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

1.   Claims 18 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

2.   The term "immediately" in claim 18 is a relative term which renders the claim indefinite. The term "immediately" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner will broadly interpret "immediately prior to an end of block indication" as meaning "before".

3.   Claim 32 recites the limitation "a record carrier comprising a computer program as claimed in claim 28" in line 1. There is insufficient antecedent basis for this limitation in the claim due to that there is no "computer program" found within the dependent claim 28 or within independent claim 24. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

4.   Claim 35 is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. Claim 35 is for a "bitstream", however, there is

a lack of a tangible embodiment for said "bitstream" to reside in; thus it is broadly

interpreted by the Examiner that said "bitstream" is a signal. The Office's current

position is that claims involving signals encoded with functional descriptive material do

not fall within any of the categories of patentable subject matter set forth in 35 U.S.C. §

101, and such claims are therefore ineligible for patent protection. See 1300 OG 142

(November 22, 2005) (in particular, see Annex IV(c)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

Claims 1-15 and 20-35 are rejected under 35 U.S.C. 103(a) as being

unpatentable over United States Patent No. 7,095,873 to Venkatesan et al., hereinafter

Venkatesan and further in view of United States Patent Application Publication No.

2004/0133794 to Kocher et al., hereinafter Kocher.

5.   Regarding claim 1, Venkatesan and Kocher teach a method for encoding an

input bitstream of an input signal comprising the steps of:

receiving the input bitstream (*Venkatesan* – column 1, lines 28-33, column 4, lines 59-

67, "content producer/provider 122 has a content storage 130 to store digital goods

containing original content", column 5, lines 9-17, "signal with a watermark embedded

therein represents to a recipient that the signal is being distributed in accordance with

the copyright authority of the content producer/provider 122" and lines 63-67, column 8,

lines 7-42, "a goods obtainer 410" and "goods obtainer 410 obtains a digital good 405

(such as an audio signal or a digital image). It may obtain the good from nearly any

source, such as a storage device or over a network communications link." and column

21, lines 7-20);

extracting non-essential information from the input bitstream to generate a reduced

bitstream (*Venkatesan* – Figures 4-6, column 2, lines 25-28, "lossy compression",

column 4, lines 40-46, "quantization", column 5, lines 56-62, column 6, lines 30-39,

column 8, lines 4-11 and 25-56, "normalize the amplitude", column 11, lines 52-60 and

column 15, lines 29-37, "where T is obtained by deleting the columns of T_1 that

correspond to the insignificant coefficients according to the significance map");

re-encoding the non-essential information to generate re-encoded data in accordance

with a different encoding rule than used for the non-essential information in the

bitstream (*Venkatesan* – Figures 4-6, column 2, lines 25-28, "lossy compression",

column 4, lines 40-46, "quantization", column 5, lines 56-62, column 6, lines 30-39,

column 8, lines 4-11 and 25-56, "resize it to a fixed size", column 10, lines 37-50,

column 11, lines 52-65, column 14, lines 45-67 and column 15, lines 1-3 and 29-37,

"where T is obtained by deleting the columns of T_1 that correspond to the insignificant

coefficients according to the significance map");

including the re-encoded data in a user data element associated with the reduced

bitstream (*Kocher* – page 13, paragraph 145, page 18, paragraph 183, "uniquely-

recorded region can also include names, e-mail addresses, account numbers, or other

data identifying the specific recipient (e.g., for forensic watermarking purposes,

interactive features, etc.) or other characteristics of the recipient (e.g., viewing

preferences, authorization data, group identifiers, zip codes, etc.)" and page 19,

paragraph 188, "may store data of any other kind and purpose on the media, such as

user preferences, user information, etc.").

6.   Regarding claim 2, Kocher teaches wherein the user data element is a user data

section of the reduced bit-stream (page 13, paragraph 145, page 18, paragraph 183,

"uniquely-recorded region can also include names, e-mail addresses, account numbers,

or other data identifying the specific recipient (e.g., for forensic watermarking purposes,

interactive features, etc.) or other characteristics of the recipient (e.g., viewing

preferences, authorization data, group identifiers, zip codes, etc.)" and page 19,

paragraph 188, "may store data of any other kind and purpose on the media, such as

user preferences, user information, etc.").

7.   Regarding claim 3, Kocher teaches wherein the user data element is comprised

in a separate bit-stream (page 13, paragraph 145, page 18, paragraph 183, "uniquely-

recorded region can also include names, e-mail addresses, account numbers, or other

data identifying the specific recipient (e.g., for forensic watermarking purposes,

interactive features, etc.) or other characteristics of the recipient (e.g., viewing

preferences, authorization data, group identifiers, zip codes, etc.)" and page 19,

paragraph 188, "may store data of any other kind and purpose on the media, such as

user preferences, user information, etc.").

8.   Regarding claim 4, Venkatesan teaches wherein the step of extracting non-

essential information comprises removing non-essential data corresponding to the non-

essential information from the input bitstream (Figures 4-6, column 2, lines 25-28, "lossy

compression", column 4, lines 40-46, "quantization", column 5, lines 56-62, column 6,

lines 30-39, column 8, lines 4-11 and 25-56, "normalize the amplitude", column 11, lines

52-60 and column 15, lines 29-37, "where T is obtained by deleting the columns of T_1

that correspond to the insignificant coefficients according to the significance map").

9.   Regarding claim 5, Venkatesan teaches wherein the step of extracting non-

essential information comprises modifying quantisation levels of the reduced bitstream

(Figures 4-6, column 2, lines 25-28, "lossy compression", column 4, lines 40-46,

"quantization", column 5, lines 56-62, column 6, lines 30-39, column 8, lines 4-11 and

25-56, "normalize the amplitude", column 11, lines 52-60 and column 15, lines 29-37,

"where T is obtained by deleting the columns of T_1 that correspond to the insignificant

coefficients according to the significance map").

10.   Regarding claim 6, Venkatesan teaches wherein the step of re-encoding comprises a compression of the non-essential information (Figures 4-6, column 2, lines 25-28, "lossy compression", column 4, lines 40-46, "quantization", column 5, lines 56-62, column 6, lines 30-39, column 8, lines 4-11 and 25-56, "resize it to a fixed size", column 10, lines 37-50, column 11, lines 52-65, column 14, lines 45-67 and column 15, lines 1-3 and 29-37, "where T is obtained by deleting the columns of T_1 that correspond to the insignificant coefficients according to the significance map").

11.   Regarding claim 7, Venkatesan teaches wherein the non-essential information corresponds to less significant data values associated with the input signal (column 15, lines 29-37, "where T is obtained by deleting the columns of T_1 that correspond to the insignificant coefficients according to the significance map").

12.   Regarding claim 8, Venkatesan teaches the step of determining the non-essential information in response to a perceptual model associated with the input signal (column 6, lines 7-16, column 10, lines 9-15 and column 13, lines 21-59).

13.   Regarding claim 9, Kocher teaches the step of including an indication in the user data element of the presence of re-encoded data in the user data element (page 13, paragraph 145, page 18, paragraph 183, "uniquely-recorded region can also include names, e-mail addresses, account numbers, or other data identifying the specific recipient (e.g., for forensic watermarking purposes, interactive features, etc.) or other characteristics of the recipient (e.g., viewing preferences, authorization data, group identifiers, zip codes, etc.)" and page 19, paragraph 188, "may store data of any other kind and purpose on the media, such as user preferences, user information, etc.").

14.   Regarding claim 10, Kocher teaches the step of including additional data in the user data element (page 13, paragraph 145, page 18, paragraph 183, "uniquely-recorded region can also include names, e-mail addresses, account numbers, or other data identifying the specific recipient (e.g., for forensic watermarking purposes, interactive features, etc.) or other characteristics of the recipient (e.g., viewing preferences, authorization data, group identifiers, zip codes, etc.)" and page 19, paragraph 188, "may store data of any other kind and purpose on the media, such as user preferences, user information, etc.").

15.   Regarding claim 11, Venkatesan and Kocher teach wherein the additional data comprises a watermark (*Venkatesan* – column 4, lines 32-67, column 5, lines 1-17, 30-36 and 56-62, column 6, lines 7-16 and 30-39, column 7, lines 23-34 and 53-60, column 8, lines 2-24, column 11, lines 52-60 and *Kocher* – page 13, paragraph 144, "forensic watermarks", page 18, paragraph 183, page 19, paragraph 190 and page 20, paragraph 199).

16.   Regarding claim 12, Kocher teaches the step of encrypting at least part of the additional data (page 1, paragraph 9, "content to be distributed in encrypted form", page 13, paragraph 144, "applying symmetric cryptographic operations", page 21, remainder of paragraph 199, "the content server transmits (e.g., streams) encrypted digital content (e.g., audio, video, and/or images)").

17.   Regarding claim 13, Kocher teaches wherein the additional data comprises data selected from the group consisting of:

a. revocation data (page 13, paragraph 145, page 18, paragraph 182 and page 19,

paragraphs 184-186 and 188, "may store data of any other kind and purpose on the

media, such as user preferences, user information, etc.", 189 and 190 and page 20,

paragraph 199, "perform real-time revocation checks");

b. digital rights management information data (page 1, paragraph 9);

c. checksum data (page 13, paragraph 144).

18.   Regarding claim 14, Kocher teaches wherein the step of re-encoding the non-

essential information comprises encryption (page 1, paragraph 9, "content to be

distributed in encrypted form", page 13, paragraph 144, "applying symmetric

cryptographic operations", page 21, remainder of paragraph 199, "the content server

transmits (e.g., streams) encrypted digital content (e.g., audio, video, and/or images)").

19.   Regarding claim 15, Kocher teaches wherein the input bitstream is an MPEG

encoded bitstream of the input signal (page 13, paragraphs 144 and 145 and page 21,

remainder of paragraph 199, "the content server transmits (e.g., streams) encrypted

digital content (e.g., audio, video, and/or images)").

20.   Regarding claim 20, Venkatesan teaches wherein the reduced bitstream and the

input bitstream are both in accordance with the same encoding standard (Figures 4-6,

column 2, lines 25-28, "lossy compression", column 4, lines 40-46, "quantization",

column 5, lines 56-62, column 6, lines 30-39, column 8, lines 4-11 and 25-56,

"normalize the amplitude", column 11, lines 52-60 and column 15, lines 29-37, "where T

is obtained by deleting the columns of T_1 that correspond to the insignificant coefficients

according to the significance map").

21.   Regarding claim 21, Venkatesan teaches wherein a combined data rate of the re-
encoded data and the reduced bitstream is equal or less than a data rate of the input
bitstream (Figures 4-6, column 2, lines 25-28, "lossy compression", column 4, lines 40-
46, "quantization", column 5, lines 56-62, column 6, lines 30-39, column 8, lines 4-11
and 25-56, "normalize the amplitude", column 11, lines 52-60 and column 15, lines 29-
37, "where T is obtained by deleting the columns of T_1 that correspond to the
insignificant coefficients according to the significance map").

22.   Regarding claim 22, Venkatesan teaches a computer program enabling the
carrying out of a method according to claim 1 (column 18, lines 17-28, column 19, lines
10-29, column 20, lines 9-20 and column 21, lines 7-11).

23.   Regarding claim 23, Venkatesan teaches a record carrier comprising a computer
program as claimed in claim 22 (column 18, lines 17-28, column 19, lines 10-29, column
20, lines 9-20 and column 21, lines 7-11).

24.   Regarding claim 24, Venkatesan and Kocher teach a method for decoding an
input bitstream for an input signal comprising the steps of:
receiving the input bitstream, the input bitstream comprising a reduced bitstream for the
input signal (*Venkatesan* – column 1, lines 28-33, column 4, lines 59-67, "content
producer/provider 122 has a content storage 130 to store digital goods containing
original content", column 5, lines 9-17, "signal with a watermark embedded therein
represents to a recipient that the signal is being distributed in accordance with the
copyright authority of the content producer/provider 122" and lines 63-67, column 8,
lines 7-42, "a goods obtainer 410" and "goods obtainer 410 obtains a digital good 405

(such as an audio signal or a digital image). It may obtain the good from nearly any source, such as a storage device or over a network communications link." and column 21, lines 7-20);

receiving a user data element comprising encoded data associated with the input signal; extracting the encoded data from the user data element (*Kocher* – page 13, paragraph 145, page 18, paragraph 183, "uniquely-recorded region can also include names, e-mail addresses, account numbers, or other data identifying the specific recipient (e.g., for forensic watermarking purposes, interactive features, etc.) or other characteristics of the recipient (e.g., viewing preferences, authorization data, group identifiers, zip codes, etc.)" and page 19, paragraph 188, "may store data of any other kind and purpose on the media, such as user preferences, user information, etc.");

re-encoding the encoded data to generate enhancement data compatible with an encoding of the input signal in the reduced bitstream (*Venkatesan* – Figures 4-6, column 2, lines 25-28, "lossy compression", column 4, lines 40-46, "quantization", column 5, lines 56-62, column 6, lines 30-39, column 8, lines 4-11 and 25-56, "resize it to a fixed size", column 10, lines 37-50, column 11, lines 52-65, column 14, lines 45-67 and column 15, lines 1-3 and 29-37, "where T is obtained by deleting the columns of T_1 that correspond to the insignificant coefficients according to the significance map");

generating an output bitstream by combining the reduced bitstream and the enhancement data (*Venkatesan* – Figures 4-6, column 2, lines 25-28, "lossy compression", column 4, lines 40-46, "quantization", column 5, lines 56-62, column 6, lines 30-39, column 8, lines 4-11 and 25-56, "resize it to a fixed size", column 10, lines

37-50, column 11, lines 52-65, column 14, lines 45-67 and column 15, lines 1-3 and 29-

37, "where T is obtained by deleting the columns of T_1 that correspond to the

insignificant coefficients according to the significance map").

25.   Regarding claim 25, Kocher teaches wherein the encoded data of the user

section is encoded in a format which is incompatible with an encoding format of the

reduced bitstream (page 13, paragraph 145, page 18, paragraph 182, "(a) notifying the

user that the copy is illegal, (b) allowing playback to proceed at reduced resolution, (c)

preventing playback altogether" and paragraph 183, "uniquely-recorded region can also

include names, e-mail addresses, account numbers, or other data identifying the

specific recipient (e.g., for forensic watermarking purposes, interactive features, etc.) or

other characteristics of the recipient (e.g., viewing preferences, authorization data,

group identifiers, zip codes, etc.)" and page 19, paragraph 188, "may store data of any

other kind and purpose on the media, such as user preferences, user information, etc.").

[An "illegal" copy in broadly interpreted by the Examiner to be an unacceptable

copy.]

26.   Regarding claim 26, Kocher teaches wherein the encoded data is encrypted and

the step of re-encoding comprises decrypting the encoded data (page 1, paragraph 9,

"content to be distributed in encrypted form, then supply decryption keys or perform

decryption operations", page 13, paragraph 144, "applying symmetric cryptographic

operations", page 21, remainder of paragraph 199, "the content server transmits (e.g.,

streams) encrypted digital content (e.g., audio, video, and/or images)").

27.   Regarding claim 27, Kocher teaches wherein the input bitstream comprises an

MPEG encoding of the input signal (page 13, paragraphs 144 and 145 and page 21,

remainder of paragraph 199, "the content server transmits (e.g., streams) encrypted

digital content (e.g., audio, video, and/or images)").

28.   Regarding claim 28, Kocher teaches the step of extracting additional data from

the user data element (page 13, paragraph 145, page 18, paragraph 183, "uniquely-

recorded region can also include names, e-mail addresses, account numbers, or other

data identifying the specific recipient (e.g., for forensic watermarking purposes,

interactive features, etc.) or other characteristics of the recipient (e.g., viewing

preferences, authorization data, group identifiers, zip codes, etc.)" and page 19,

paragraph 188, "may store data of any other kind and purpose on the media, such as

user preferences, user information, etc.").

29.   Regarding claim 29, Venkatesan and Kocher teach wherein the additional data is

a watermark (*Venkatesan* – column 4, lines 32-67, column 5, lines 1-17, 30-36 and 56-

62, column 6, lines 7-16 and 30-39, column 7, lines 23-34 and 53-60, column 8, lines 2-

24, column 11, lines 52-60 and *Kocher* – page 13, paragraph 144, "forensic

watermarks", page 18, paragraph 183, page 19, paragraph 190 and page 20, paragraph

199).

30.   Regarding claim 30, Kocher teaches wherein the user data element is a user

data section of the input bitstream (page 13, paragraph 145, page 18, paragraph 183,

"uniquely-recorded region can also include names, e-mail addresses, account numbers,

or other data identifying the specific recipient (e.g., for forensic watermarking purposes,

interactive features, etc.) or other characteristics of the recipient (e.g., viewing

preferences, authorization data, group identifiers, zip codes, etc.)" and page 19,

paragraph 188, "may store data of any other kind and purpose on the media, such as

user preferences, user information, etc.").

31.   Regarding claim 31, Venkatesan teaches a computer program enabling the

carrying out of a method according to claim 24 (column 18, lines 17-28, column 19, lines

10-29, column 20, lines 9-20 and column 21, lines 7-11).

32.   Regarding claim 32, Venkatesan teaches a record carrier comprising a computer

program as claimed in claim 28 (column 18, lines 17-28, column 19, lines 10-29, column

20, lines 9-20 and column 21, lines 7-11).

33.   Regarding claim 33, Venkatesan and Kocher disclose an apparatus (101) for

encoding an input bitstream of an input signal, the apparatus (101) comprising:

means (109) for receiving the input bitstream (*Venkatesan* – column 1, lines 28-33,

column 4, lines 59-67, "content producer/provider 122 has a content storage 130 to

store digital goods containing original content", column 5, lines 9-17, "signal with a

watermark embedded therein represents to a recipient that the signal is being

distributed in accordance with the copyright authority of the content producer/provider

122" and lines 63-67, column 8, lines 7-42, "a goods obtainer 410" and "goods obtainer

410 obtains a digital good 405 (such as an audio signal or a digital image). It may

obtain the good from nearly any source, such as a storage device or over a network

communications link." and column 21, lines 7-20);

means (111) for extracting non-essential information from the bitstream to generate a

reduced bitstream (*Venkatesan* – Figures 4-6, column 2, lines 25-28, "lossy

compression", column 4, lines 40-46, "quantization", column 5, lines 56-62, column 6,

lines 30-39, column 8, lines 4-11 and 25-56, "normalize the amplitude", column 11, lines

52-60 and column 15, lines 29-37, "where T is obtained by deleting the columns of T_1

that correspond to the insignificant coefficients according to the significance map");

means (113) for re-encoding the non-essential information to generate re-encoded data

in accordance with a different encoding rule than used for the non-essential information

in the bitstream (*Venkatesan* – Figures 4-6, column 2, lines 25-28, "lossy compression",

column 4, lines 40-46, "quantization", column 5, lines 56-62, column 6, lines 30-39,

column 8, lines 4-11 and 25-56, "resize it to a fixed size", column 10, lines 37-50,

column 11, lines 52-65, column 14, lines 45-67 and column 15, lines 1-3 and 29-37,

"where T is obtained by deleting the columns of T_1 that correspond to the insignificant

coefficients according to the significance map");

means (115) for including the re-encoded data in a user data element associated with

the reduced bitstream (*Kocher* – page 13, paragraph 145, page 18, paragraph 183,

"uniquely-recorded region can also include names, e-mail addresses, account numbers,

or other data identifying the specific recipient (e.g., for forensic watermarking purposes,

interactive features, etc.) or other characteristics of the recipient (e.g., viewing

preferences, authorization data, group identifiers, zip codes, etc.)" and page 19,

paragraph 188, "may store data of any other kind and purpose on the media, such as

user preferences, user information, etc.").

34.   Regarding claim 34, Venkatesan and Kocher disclose an apparatus (107) for

decoding an input bitstream for an input signal, the apparatus (107) comprising:

means (117) for receiving the input bitstream, the input bitstream comprising a reduced

bitstream associated with the input signal;

means (117) for receiving a user data element comprising encoded data for the input

signal (*Kocher* – page 13, paragraph 145, page 18, paragraph 183, "uniquely-recorded

region can also include names, e-mail addresses, account numbers, or other data

identifying the specific recipient (e.g., for forensic watermarking purposes, interactive

features, etc.) or other characteristics of the recipient (e.g., viewing preferences,

authorization data, group identifiers, zip codes, etc.)" and page 19, paragraph 188, "may

store data of any other kind and purpose on the media, such as user preferences, user

information, etc.");

means (119) for extracting the encoded data from the user data element (*Kocher* –

page 13, paragraph 145, page 18, paragraph 183, "uniquely-recorded region can also

include names, e-mail addresses, account numbers, or other data identifying the

specific recipient (e.g., for forensic watermarking purposes, interactive features, etc.) or

other characteristics of the recipient (e.g., viewing preferences, authorization data,

group identifiers, zip codes, etc.)" and page 19, paragraph 188, "may store data of any

other kind and purpose on the media, such as user preferences, user information, etc.");

means (121) for re-encoding the encoded data to generate enhancement data

compatible with an encoding of the input signal in the reduced bitstream (*Venkatesan* –

Figures 4-6, column 2, lines 25-28, "lossy compression", column 4, lines 40-46,

"quantization", column 5, lines 56-62, column 6, lines 30-39, column 8, lines 4-11 and

25-56, "resize it to a fixed size", column 10, lines 37-50, column 11, lines 52-65, column

14, lines 45-67 and column 15, lines 1-3 and 29-37, "where T is obtained by deleting the

columns of T_1 that correspond to the insignificant coefficients according to the

significance map");

means (123) for generating an output bitstream by combining the reduced bitstream and

the enhancement data (*Venkatesan* – Figures 4-6, column 2, lines 25-28, "lossy

compression", column 4, lines 40-46, "quantization", column 5, lines 56-62, column 6,

lines 30-39, column 8, lines 4-11 and 25-56, "resize it to a fixed size", column 10, lines

37-50, column 11, lines 52-65, column 14, lines 45-67 and column 15, lines 1-3 and 29-

37, "where T is obtained by deleting the columns of T_1 that correspond to the

insignificant coefficients according to the significance map").

35.   Regarding claim 35, Venkatesan and Kocher disclose a bitstream comprising a

reduced bitstream section corresponding to an encoding of a content signal and a user

data section comprising encoded data for the input signal encoded in a different format

than an encoding format of the reduced bitstream section (*Venkatesan* – Figures 4-6,

column 2, lines 25-28, "lossy compression", column 4, lines 40-46, "quantization",

column 5, lines 56-62, column 6, lines 30-39, column 8, lines 4-11 and 25-56,

"normalize the amplitude", column 11, lines 52-60 and column 15, lines 29-37, "where T

is obtained by deleting the columns of T_1 that correspond to the insignificant coefficients

according to the significance map" and *Kocher* – page 13, paragraph 145, page 18,

paragraph 183, "uniquely-recorded region can also include names, e-mail addresses,

account numbers, or other data identifying the specific recipient (e.g., for forensic

watermarking purposes, interactive features, etc.) or other characteristics of the

recipient (e.g., viewing preferences, authorization data, group identifiers, zip codes,

etc.)" and page 19, paragraph 188, "may store data of any other kind and purpose on

the media, such as user preferences, user information, etc.").

36.   The motivation to combine would be to determine "security requirements then

allow the content itself to implement policies that consider a wide variety of factors and

determine whether (or how) to play in each environment" (*Kocher* – page 4, paragraph

39).

37.   Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to incorporate the teachings of Kocher within the teachings

of Venkatesan so that "enabling the content itself to control what data regions are

played, makes it possible to embed information in the output by selecting between

output data versions with tiny differences. Pirate copies can be traced back to a specific

player by analyzing these differences" (*Kocher* – page 4, paragraph 37).

          Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Venkatesan and Kocher as applied to claim 1 above, and further in view of United

States Patent No. 5,253,055 to Civanlar et al., hereinafter Civanlar.

38.   Regarding claim 16, Venkatesan and Civanlar teach wherein the non-essential

information corresponds to higher frequency transform coefficients (*Venkatesan* –

column 6, lines 30-50, column 9, lines 32-36, column 13, lines 65-67, column 14, lines

1-4 and 65-67, column 15, lines 1-3 and 29-37 and column 16, lines 26-30 and *Civanlar*

– column 4, lines 28-53, "inclusion of the 'extra' coefficients simply reduces the run/level pairs included in the next higher resolution layers by one").

39.   Regarding claim 17, Civanlar teaches wherein the step of extracting comprises extracting run-level pairs of the bitstream (Figures 1A, 1B, 2A, 2B, 3 and 6 and column 1, lines 51-67, "a series of number pairs called run/levels", column 2, lines 1-41, column 3, lines 20-40, column 4, lines 28-53, "inclusion of the 'extra' coefficients simply reduces the run/level pairs included in the next higher resolution layers by one", column 5, lines 9-41, column 6, lines 63-67 and column 7, lines 1-30).

40.   Regarding claim 18, Civanlar teaches wherein at least some of the run-level pairs are the run-level pairs immediately prior to an end of block indication (Figures 1A, 1B, 2A, 2B, 3 and 6 and column 1, lines 51-67, "a series of number pairs called run/levels", column 2, lines 1-41, column 3, lines 20-40, "inserted in the bitstream at the beginning of each encoded video-sequence", column 4, lines 28-53, "inclusion of the 'extra' coefficients simply reduces the run/level pairs included in the next higher resolution layers by one", column 5, lines 9-41, column 6, lines 63-67 and column 7, lines 1-30).

41.   Regarding claim 19, Civanlar teaches wherein the step of re-encoding the non-essential pairs comprises re-encoding the run-level pairs using a different run length value to data word association than specified for MPEG (Figures 1A, 1B, 2A, 2B, 3 and 6 and column 1, lines 51-67, "a series of number pairs called run/levels", column 2, lines 1-41, "the variable-length word decoder", column 3, lines 20-40, "inserted in the bitstream at the beginning of each encoded video-sequence", column 4, lines 28-53, "inclusion of the 'extra' coefficients simply reduces the run/level pairs included in the

next higher resolution layers by one", column 5, lines 9-41, column 6, lines 63-67 and

column 7, lines 1-30).

42.   The motivation to combine would be to "reduce the required computations

resources and memory required to facilitate the video decoding. Also, in certain

applications a separate quantizer may be utilized for each video scale to allow

independent quality adjustments corresponding to bit rates of each layer" (*Civanlar* –

column 6, lines 57-62).

43.   Therefore it would have been obvious to one of ordinary skill in the art at the time

the invention was made to incorporate the techniques disclosed within Civanlar with the

teachings of Kocher and Venkatesan in order to provide a way that "improves coding

efficiency by allowing an implicit EOB to separate blocks, making it unnecessary to

transmit an explicit EOB signal in most cases" (*Civanlar* – column 3, lines 37-40)

Conclusion

44.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

45.   The following United States Patents are cited to further show the state of the art

with respect to the embedding of data within a bitstream, such as:

United States Patent No. 5,727,092 to Sandford et al., which is cited to show

compression embedding.

United States Patent No. 6,809,792 to Tehranchi et al., which is cited to show

spectral watermarking for motion picture image data.

United States Patent No. 6,332,030 to Manjunath et al., which is cited to show a method for embedding and extracting digital data in images and video.

United States Patent No. 6,532,541 to Chang et al., which is cited to show a method and apparatus for image authentication.

United States Patent No. 5,960,081 to Vynne et al., which is cited to show embedding a digital signature in a video sequence.

46.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremiah Avery whose telephone number is (571) 272-8627. The examiner can normally be reached on Monday thru Friday 8:30am-5pm.

47.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

48.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLA

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PRIMARY EXAMINER